Working together to prevent diabetes and improve hypertension

Evidence-based solutions for prediabetes and hypertension: shifting the practice paradigm
Objectives

• Highlight the importance of focusing on hypertension and prediabetes to reduce cardiovascular mortality
• Share novel approaches for preventing diabetes and improving hypertension care
• Discuss how these new approaches fit into the rapidly evolving health care landscape
• Founded on May 7th, 1847 at The Academy of Natural Sciences in Philadelphia

• Largest medical association in America

• Mission: To promote the art and science of medicine and the betterment of public health
AMA focus on improving health outcomes

One of 3 focus areas under new strategic plan (2012):

• Improving population health outcomes
• Physician satisfaction and practice sustainability
• Accelerating change in undergraduate medical education

Improving health outcomes: Long-term goals

• Prevent heart disease, stroke and type 2 diabetes
• Improve population health outcomes for these conditions
Heart disease is the #1 cause of death in the United States

1 in 3 American adults are at risk for type 2 diabetes

Source: CDC
Why focus on risk factors?

- Blood pressure is strongly and directly related to vascular and overall mortality.
- Every 20 mm Hg increase in systolic BP leads to a doubling of the risk of death from heart attack or stroke.
- Risk doubles with 10 mm Hg increase in diastolic BP.

*Meta analysis of 61 studies with 1 million patients*

80 million (1 in 3) American adults have high blood pressure

46% are uncontrolled

Most adults with uncontrolled hypertension have health insurance and a usual source of care

62% increase in annual deaths related to hypertension

Source: CDC and AHA
29 million Americans have diabetes

86 million American adults have prediabetes

That's more than 1 out of 3 adults

9 out of 10 adults with prediabetes don’t know they have it

Source: CDC
People with diabetes are nearly twice as likely to have cardiovascular disease and to die from heart attack or stroke.
We need to develop solutions that...

- Summarize the evidence and best practices
- Improve assessment and measurement
- Connect practices with community-based resources
- Promote a culture of teamwork and reliability
- Can be used by busy physicians and care teams
Large-scale improvement is possible

HTN control improved from 43% to 80% over 8 years due to:

- Measuring and reporting BP control rates using a registry
- Sharing best practices
- Using practice guidelines
- Following-up abnml BP readings
- Single-pill combination therapy

N = 349,937 → 652,763

We now understand which interventions work

“About half of the intervention effect in this multifaceted trial…was attributable to the combination of self-monitoring and medication intensification.”

Mediation analysis using path analytic models

Evidence-based best practices

- Obtaining accurate and reliable BP measurements
- Eliminating missed opportunities to escalate Rx
- Ensuring prompt and adequate follow-up
- Supporting patients and families in self-management
- Improving teamwork
Measure accurately

When screening patients for high BP:
- Use a validated, automated device to measure BP
- Use the correct cuff size on a bare arm
- Ensure patient is positioned correctly

If screening BP is >140/90 mm Hg, obtain a confirmatory measurement:
- Repeat screening steps above
- Ensure patient has an empty bladder
- Ensure patient has rested quietly for at least five minutes
- Obtain the average of at least three BP measurements

Act rapidly

If a patient has BP >140/90 mm Hg confirmed:
- Use evidence-based protocol to guide treatment
- Re-assess patient every 2-4 weeks until BP is controlled
- Whenever possible, prescribe single-pill combination therapy

Partner with patients, families and communities

To empower patients to control their BP:
- Engage patients using evidence-based communication strategies
- Help patients accurately self-measure BP
- Direct patients and families to resources that support medication adherence and healthy lifestyles

The 2015 M.A.P. checklists
### Measure accurately

**Screening checklist**
- When screening patients for high blood pressure:
  - Use a validated, automated device to measure BP\(^1\)
  - Use the correct cuff size on a bare arm\(^2,3,9\)
  - Ensure patient is positioned correctly\(^2,3,11,19\)

**Confirmatory checklist**
- If screening blood pressure is \(\geq 140/90\) mm Hg, obtain a confirmatory measurement:
  - Repeat screening steps above
  - Ensure patient has an empty bladder\(^2,3,20\)
  - Ensure patient has rested quietly for at least five minutes\(^2,3,21,22\)
  - Obtain the average of at least three BP measurements\(^2,3,23\)

### Act rapidly

- If a patient has blood pressure \(\geq 140/90\) mm Hg confirmed:
  - Use evidence-based protocol to guide treatment\(^24,26\)
  - Re-assess patient every 2-4 weeks until BP is controlled\(^27,28\)
  - Whenever possible, prescribe single-pill combination therapy\(^30,32\)

**Evidence-based protocols typically include**
- Counsel on and reinforce lifestyle modifications
- Ensure early follow-up and add preferred medications in a stepwise fashion, until BP is controlled
- For most patients, give preference to:
  - Thiazide diuretics
  - Dihydropyridine calcium channel blockers
  - ACE inhibitors (ACEI) or
  - Angiotensin receptor blockers (ARB)
- Do not prescribe both ACEI and ARB to same patient
- If BP \(\geq 160/100\) mm Hg, start therapy with two medications or a single pill combination

### Partner with patients, families and communities

To empower patients to control their blood pressure:
- Engage patients using evidence-based communication strategies\(^33,35\)
- Help patients accurately self-measure\(^36,37\)
- Direct patients and families to resources that support medication adherence and healthy lifestyles

**Evidence-based communication strategies include**
- Begin with open-ended questions about adherence, including recent medication use
- Explore reasons for possible non-adherence or a single pill combination
- Elicit patient views on options and priorities to customize a care plan for each patient
- Remain non-judgmental at all times
- Use teach-back to ensure understanding of the care plan

**Evidence-based tips for patient self-measurement of BP**
- Instruct patient to measure BP accurately using a validated, automated device and correct positioning for measurement
- Ask patient to record 2-2 morning BP measurements and 2-2 evening BP measurements for 4 consecutive days between office visits
- Develop a systematic approach to ensure patients can act rapidly to address elevated BP readings between office visits
- Counsel patients that self-measured BP \(\geq 135/85\) mm Hg is considered elevated

**Evidence-based lifestyle changes to lower BP include**
- Following the DASH diet, which is rich in fruits, vegetables and whole grains; low-fat dairy, poultry, fish and plant-based oils; and limits sodium, sweets, sugary drinks, red meat and saturated fats
- Engaging in moderate physical activity, such as brisk walking, for 40 minutes a day at least four days a week
- Maintaining a healthy body mass index (BMI)
- Limiting alcohol to \(\leq 2\) drinks/day in men, \(\leq 1\) drink/day in women

---

**Evidence-based tips to help understand and implement key interventions**

---

**References on back**
SMBP monitoring program

- Guidance for physicians, care teams, patients and family members
- Training and educational materials
- Instructions for ‘loaner program’
Blood pressure measurement: Measure accurately

Screening for high blood pressure
- Use a validated, automated device to measure BP
- Use the correct cuff size on a bare arm
- Ensure the patient is positioned correctly

If initial blood pressure is $\geq 140/90$ mm Hg, obtain a confirmatory measurement
- Repeat above steps
- Ensure the patient has an empty bladder
- Ensure the patient has rested quietly for at least five minutes
- Obtain the average of at least three BP measurements

Evidenced-based tips for correct positioning
- Ensure the patient is seated comfortably with:
  1. Back supported
  2. Legs uncrossed with feet flat on the floor/ supported with a stool
  3. Arm supported with the BP cuff at heart level
- Remain quiet; No one should be talking during the measurement
Working with the AMA to improve BP control
Prediabetes: a reversible condition in which plasma glucose levels are above normal but not high enough to diagnose type 2 diabetes

- >5 times higher risk of developing type 2 diabetes
- Increased risk of cardiovascular disease and death

Source: CDC and ADA.
The Diabetes Prevention Program Research Group

- NIH-funded 3-arm RCT (N=3,234) comparing placebo vs metformin vs intensive lifestyle counseling
- Lifestyle: ↓ diet, ↑ physical activity
- Incidence of diabetes

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>11.0 cases/100 person yr</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td>7.8 (31% reduction)</td>
<td></td>
</tr>
<tr>
<td>Lifestyle</td>
<td>4.8 (58% reduction)</td>
<td></td>
</tr>
</tbody>
</table>

DPP study: lifestyle intervention

- Goal: ≥7% weight loss (50% achieved goal at 24 wks)
- Low cal, low fat diet + mod physical activity ≥150 min/wk
- 24-wk, 16-lesson curriculum taught 1:1 by case managers followed by monthly sessions to reinforce behavior change
- Extent of weight loss predictive of ↓ in diabetes risk
- ↓ BP, ↓ TG, ↓ meds for HTN/hyperlipidemia vs metformin

Making the DPP scalable and affordable

• Group-based lifestyle intervention in a clinical setting
• Group-based lifestyle intervention in a community setting with non-clinicians as coaches
• Use of self-directed DVD with minimal coaching via email
• Online, group-based lifestyle intervention + email coaching
• Comparable results with surrogate end point of wt loss


© 2015 American Medical Association. All rights reserved.
Bridging the gap

Connecting Strategies
- Pre-identifying community resources
  - Known services and expectations
- Developing referral guides
  - Paper or electronic databases
- Engaging external intermediaries
  - Single-point access to resources

Primary Care
- Capacity for risk assessment
- Ability for brief counseling
- Capacity and ability to refer
- Awareness of community resources

Community Resources
- Availability of resource
- Affordability of resource
- Accessibility of resource
- Perceived as value added

Tools for primary care:
• Engage clinical care teams
• Identify high-risk patients
• Educate and engage patients
• Connect with programs
• Refer to local programs

Connecting strategies:
• Clarify DPP expectations
• Referral guide (online)
• Convene stakeholders
Working with the AMA to prevent diabetes in a busy practice
preventdiabetesstat.org

WHAT YOU SHOULD KNOW ABOUT PREDIABETES
The 5 essentials for success

• High awareness of prediabetes and lifestyle interventions
• Sufficient availability of credible, evidence-based programs
• Local employers and insurers willing to pay for program participation (and for screening/testing/referral if needed)
• Clinical practices willing and able to screen, test and refer
• Programs able to efficiently enroll and engage participants
Health care is evolving rapidly

Growth of ACO covered lives over time

Source: Leavitt Partners
Over the next 5 years, a typical large clinical practice could experience a 57% increase in the number of patients with diabetes.

Based on a panel size of approximately 100,000 patients.
Alignment with NCQA PCMH standards

• The Practice Team
• Population Health Management
  – Must-Pass: Use data for population management
  – Critical-Factor: Implement evidence-based decision support
• Care Management and Support
  – Critical-Factor: Identify patients for care management
  – Support self-care and shared decision making
• Performance Measurement and Quality Improvement
  – Measure clinical quality performance
Alignment with MU stage 1 and 2

- Generate patient lists based on demographics, vital signs, lab results or diagnoses (problem list)
- Implement clinical decision support to identify patients with prediabetes or uncontrolled hypertension
- Send patient reminders; identify patient-specific educational resources
- Use secure protocols for transmitting referral information
STEPS Forward modules on hypertension and prediabetes
• One-hour CME introduction to tools; free for all to use

https://www.stepsforward.org/
Colorado: things to celebrate

- Ranked 8th healthiest state on America’s Health Rankings®
- From 2013 to 2014, diabetes prevalence decreased from 7.4% to 6.5% of adults, the lowest rate in the nation
- Since 1990, cardiovascular deaths decreased by 41%
- Medicaid expansion, 1305 funding
- Multiple physician sponsored ACOs

Sources: America’s Health Rankings®, CDC, Leavitt Partners
Diabetes prevalence by geographic region, Colorado, 2010-2011.

Southeastern Colorado bears the largest burden of diabetes, with prevalence as high as 13%, almost twice the state average and similar to the highest nationally ranked state.